# Analysis of Coriolis Flowmeters Effected by Cryogenic Fluid based on Stiffness Model

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Coriolis Mass Flowmeters(CMF)is investigated in this paper. Based on stiffness model, which is a simply supported beam simplified by the Euler-Bernoulli beam, the mass flow rate expression contained dimensionless function can be deduced. Then, due to the relationship of stiffness parameters and material temperature, the theoretical calculation expression of Flowmeter relative error is reached。 The calculation expression is shown by material linear expansive coefficient and temperature difference. Finally, the Flowmeter relative error with the temperature range from -197℃ to +7℃ is calculated .